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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,572	10/23/1998	YOSHIHIRO TERASHIMA	35.C13035	3325

5514 7590 12/15/2003

FITZPATRICK CELLA HARPER & SCINTO  
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NEW YORK, NY 10112

EXAMINER
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NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
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2674

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DATE MAILED: 12/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/177,572

Applicant(s)

TERASHIMA ET AL.

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. The amendment filed on 9/17/2003 is entered. The rejections of claims 17 and 18 are maintained.

#### *Drawings*

2. The drawings were received on 9/17/2003. These drawings are acknowledged. However, Figure 2 is objected to because the following informalities: MUX 9 should be read --DEMUX 9--

#### *Specification*

3. The disclosure is objected to because of the following informalities: multiplexer 9 at page 1, line 18 and line 23 should be read --demultiplexer 9--

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwata et al (US 5,900,857) in view of Iwasaki (US 4,745,485).
6. As to claim 17, Kuwata et al teach a memory controller comprising a first FIFO section 2 *storing the image data of "a" x "2n"-bit width, where "a" is a size of the inputted bit width, "n" is a positive integer number, and 2 x "n" makes an even bit (see column*

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13, lines 64-67, column 16, lines 66-67, column 19, lines 56-59, and column 21, lines 40-44);

a frame memory section 3, a second FIFO section 5, the timing control section 9 controls the image data RGB (6) is read out from the first FIFO section 2, and read out from the frame memory section 3 at a rate that is half of a rate at which the image data RGB (6) is inputted into the first FIFO section 2, the memory control section 4 controls writing into the frame memory section 3 (see figure 1, column 11, lines 44-67);

*said first FIFO section is of a size suitable for storing image data so that, within a period for inputting the image data in said first FIFO section to FULL capacity (column 13, lines 65-67);*

Kuwata et al fail to teach a serial/parallel conversion. However, Iwasaki teaches a related memory controller which includes a serial/parallel conversion 2 (see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the a serial/parallel conversion 2 taught by Iwasaki for Kuwata et al's memory controller because this would display with good quality on the liquid crystal display by using the frame memories corresponding to one frame (see abstract of Iwasaki).

7. As to claim 18, Iwasaki teach a liquid crystal panel 10, a decoder 31, the memory controller 18 (see figure 7).

### ***Response to Arguments***

8. Applicant's arguments filed 9/17/2003 have been fully considered but they are not persuasive.

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9. In response to applicant's argument that the devices 9 and 10 shown in figure 2 represent switches that can perform either a switching output or a switching input, and therefore, are suitable referred to as a multiplexer, at page 4, 3<sup>rd</sup> paragraph. Examiner disagrees with that situation because multiplexer defines a device that allows the interleaving of two or more signals to a single line or terminal. In contrast, demultiplexers defines an electronic switch with one input and several outputs.

10. In response to applicant's argument that claim 17 recites "... $a \times 2n$ -bit, where " $a$ " is a natural number representing a size of the inputted bit width and " $n$ " is a natural number... said first FIFO section is of a size suitable for storing image data so that, within a period for inputting the image data in said first FIFO section to FULL capacity..." This argument is not persuasive because Kuwata et al's invention teach a first FIFO section 2 *storing the image data of " $a$ " x " $2n$ "-bit width, where " $a$ " is a size of the inputted bit width, " $n$ " is a positive integer number,  $2 \times n$  makes an even bit (see column 13, lines 64-67, column 16, lines 66-67, column 19, lines 56-59, and column 21, lines 40-44).*

11. In response to applicant's argument that claim 17 recites "the image data is read out from said first FIFO section, and read out from said frame memory section at a rate that is half of a rate at which the image data is inputted into said first FIFO section," at page 6, 4 last line, and page 7, lines 9-11. This argument is not persuasive because Kuwata et al's invention teach the timing control section 9 controls the image data RGB (6 bits) is read out from the first FIFO section 2, and read out from the frame memory section 3 at a rate that is half of a rate at which the image data R1, G1, B1 and R2, B2,

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G2 (3 bits) is inputted into the first FIFO section 2 (see figure 1, column 11, lines 51-58). Iwasaki's invention teaches the picture signal is applied to the driver 9 at a speed equal to ½ of the writing speed to the frame memories 4 and 5 (column 9, lines 54-56).

For these reasons, the rejections based on Kuwata et al and Iwasaki have been maintained.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**


**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen  
Patent Examiner  
Art Unit 2674

KN  
December 11, 2003



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600